SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

Sault College

COURSE OUTLINE

COURSE TITLE: Math Level 4

CODE NO. : MTH044   **SEMESTER:**   n/a

PROGRAM: Academic Upgrading

AUTHOR: Doug Cressman

DATE: May, 2006   **PREVIOUS OUTLINE DATED:**   n/a

APPROVED:

_____   _____
                                      DEAN   DATE

TOTAL CREDITS: n/a

PREREQUISITE(S): LBS 3 or placement test

HOURS/WEEK: 5

I.   **COURSE DESCRIPTION:** A self-directed course in which the learner, along with the direction of the professor, reviews basic mathematical skills including percents, geometry, measurement, statistics, real numbers and algebra. Although not assumed, it is entirely possible to complete the requirements for this course in one semester.

II. **LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**

Upon successful completion of this course, the student will demonstrate the ability to:

1.   Manipulate percents and solve problems related to percent.
     Potential Elements of the Performance:
     - Change between decimal, fraction and percent
     - Identify rate, base, and amount
     - Find an unknown rate, base or amount
     - Solve for unknown rate, base or amount in a percent application
2.   Use both the English (American) and Metric systems to describe distance, weight and volume.
     Potential Elements of the Performance:
     - Describe measurement in the English system (distance, weight and volume)
     - Describe measurement in the Metric system (distance, weight and volume)
     - Convert measurement units within each system
3.   Solve geometric problems containing lines or line segments, angle measurement and triangles.
     Potential Elements of the Performance:
     - Distinguish between a line and line segment
     - Recognize parallel and perpendicular lines
     - Name and measure an angle
     - Find the measure of angles given related information
     - Identify types of triangles
     - Find the measure of the third angle of a triangle
     - Identify similar triangles and their properties
4.   Generate basic statistical data and interpret graphs
     Potential Elements of the Performance:
     - Analyze a series of numbers to determine mean, median and mode
     - Interpret and create tables of information
     - Interpret and create line and bar graphs, pie charts and pictographs

5. Perform operations using Real Numbers
    <u>Potential Elements of the Performance:</u>
    - Accurately add, subtract, multiply and divide using real numbers.
6. Solve problems using basic algebra
    <u>Potential Elements of the Performance:</u>
    - Identify an algebraic expression
    - Use algebraic symbols
    - Substitute real numbers for variables in an expression
    - Use order of operations to evaluate an expression
    - Identify terms and coefficients
    - Identify and combine like terms
    - Determine whether a given number is a solution for an equation
    - Solve algebraic equations

III. TOPICS:

1. Percent
2. Geometry
3. Measurement
4. Statistics
5. Real Number System
6. Algebra

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:
Hutchison, Bergman, Baratto. <u>Basic Mathematical Skills with Geometry</u>, <u>6th edition</u>. McGraw-Hill, 2005.

V. EVALUATION PROCESS/GRADING SYSTEM:
At the completion of each unit, a unit test is given. The test must be passed at a minimum of 60%. At the completion of all 5 units, a demonstration project must be submitted. A grade of 75% is required for the demonstration project. The final mark is calculated as an average of the unit test and the demonstration project marks. The following semester grades will be assigned to students:

As modified from the post-secondary programs.

Grade	**Definition**
A+	90 – 100%
A	80 – 89%
B	70 - 79%
C	60 - 69%
F	59% and below
W	Student has withdrawn from the course without academic

penalty.

VI.   SPECIAL NOTES:

Special Needs:
If you are a student with special needs (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Special Needs office. Visit Room E1101 or call Extension 2703 so that support services can be arranged for you.

Retention of Course Outlines:
It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

Course Outline Amendments:
The professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Exemption from Topics:
Depending on the student's performance on the placement test, and at the discretion of the professor, credit may be given for any of the units of this level.

VII.   PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in the course should consult the professor. Credit for prior learning will be given upon demonstrating proof of same and at the discretion of the professor.